



SEQUENCE LISTING

<110> Indimalla, Ekambar R.
Zhao, Qiuyan
Yu, Dong
Agrawal, Sudhir

<120> Modulation of Immunostimulatory Activity of Immunostimulatory
Modified oligodeoxynucleotide phosphorothioate Analogs by
Positional Chemical Changes

<130> HYZ-479CP (47508.577)

<140> US 09/965,116

<141> 2001-09-26

<150> US 09/712,898

<151> 2000-11-15

<150> US 60/235,452

<151> 2000-09-26

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<223> cc at positions 1 & 2 = C3-Linker

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t at position 16 = Methyl-phosphonate

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c at position 5 = beta-L-Deoxynucleoside

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<221> modified_base

<222> 14, 15

<223> t at position 14 = beta-L-Deoxynucleoside

c at position 15 = beta-L-Deoxynucleoside

<400> 84

ctatctgacg ttctctgt

18

<210> 85

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base

```

<222> 9, 10
<223> c at position 9 = beta-L-Deoxynucleoside
      g at position 10 = beta-L-Deoxynucleoside

<400> 85
ctatctgacg ttctctgt                                     18

<210> 86
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 7
<223> g = beta-L-Deoxynucleoside

<400> 86
ctatctgacg ttctctgt                                     18

<210> 87
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 12
<223> t = beta-L-Deoxynucleoside

<400> 87
ctatctgacg ttctctgt                                     18

<210> 88
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> (1)...(18)
<223> all nucleotides = beta-L-deoxynucleoside

<400> 88
ctatctgacg ttctctgt                                     18

<210> 89
<211> 18
<212> DNA
<213> Artificial Sequence

<220>

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<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base

<222> 5

<223> c = 2'-O-Propargyl-ribonucleoside

<400> 89

ctatctgacg ttctctgt

18

<210> 90

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base

<222> 15

<223> c = 2'-O'Propargyl-ribonucleoside

<400> 90

ctatctgacg ttctctgt

18

<210> 91

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base

<222> 4, 5

<223> a at position 4 = 1',2'-Dideoxyribose

c at position 5 = 1',2'-Dideoxyribose

<400> 91

cctactagcg ttctcatc

18

<210> 92

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> modified linkage of oligodeoxynucleotide phosphorothioate

<221> modified_base

<222> 4, 5

<223> a at position 4 = C3-Linker

c at position 5 = C3-Linker

<400> 92

cctactagcg ttctcatc

18

<210> 93

<211> 18

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> modified linkage of oligodeoxynucleotide phosphorothioate

 <221> modified_base
 <222> 4, 5
 <223> a at position 4 = 3'-methoxyribonucleoside
 c at position 5 = 3'-methoxyribonucleoside

 <400> 93
 cctactagcg ttctcatc 18

 <210> 94
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> modified linkage of oligodeoxynucleotide phosphorothioate

 <221> modified_base
 <222> 4, 5, 12
 <223> a at position 4 = 1',2'-Dideoxyribose
 c at position 5 = 1',2'-Dideoxyribose
 t at position 12 = 2'-methoxyribonucleoside

 <400> 94
 cctactagcg ttctcatc 18

 <210> 95
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> modified linkage of oligodeoxynucleotide phosphorothioate

 <400> 95
 cctactagcg ttctcatc 18

 <210> 96
 <211> 18
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> modified oligodeoxynucleotide phosphorothioate

 <221> modified_base
 <222> 10
 <223> g = 7-deazaguanine

 <400> 96
 ctatctgacg ttctctgt 18

 <210> 97

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<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 9
<223> g = 7-deazaguanine

<400> 97
ctatctgagc ttctctgt
18

<210> 98
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<400> 98
tctcccagcg tgcgccat
18

<210> 99
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 10,14
<223> g at positions 10 and 14 = 7-deazaguanine

<400> 99
tctcccagcg tgcgccat
18

<210> 100
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 5
<223> c = C3-Linker

<221> modified_base
<222> 10
<223> g = 7-deazaguanine

<400> 100
ctatctgacg ttctctgt
18

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<210> 101
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
 <222> 10
 <223> g = 6-thioguanine

<400> 101
 ctatctgacg ttctctgt 18

<210> 102
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
 <222> 9
 <223> g = 6-thioguanine

<400> 102
 ctatctgagc ttctctgt 18

<210> 103
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
 <222> 9
 <223> c = 4-thiouridine

<400> 103
 ctatctgacg ttctctgt 18

<210> 104
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
 <222> 5
 <223> c = 1,2-Dideoxyribose

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<221> modified_base
<222> 9
<223> c = 4-thiouridine

<400> 104
ctatctgacg ttctctgt                                     18

<210> 105
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 9
<223> c = Ara-C

<400> 105
ctatctgacg ttctctgt                                     18

<210> 106
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 10
<223> c = Ara-C
<400> 106
ctactctgac cttctctgt                                     19

<210> 107
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
<222> 9
<223> c = 1',2'-Dideoxyribose

<400> 107
ctatctgacg ttctctgt                                     18

<210> 108
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> modified oligodeoxynucleotide phosphorothioate

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<221> modified_base
 <222> 8
 <223> a = 1',2'-Dideoxyribose

<400> 108
 ctatctgacg ttctctgt 18

<210> 109
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
 <222> 6
 <223> t = 1',2'-Dideoxyribose

<400> 109
 ctatctgacg ttctctgt 18

<210> 110
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
 <222> 4
 <223> t = 1',2'-Dideoxyribose

<400> 110
 ctatctgacg ttctctgt 18

<210> 111
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base
 <222> 11
 <223> t = 1',2'-Dideoxyribose

<400> 111
 ctatctgacg ttctctgt 18

<210> 112
 <211> 18
 <212> DNA
 <213> Artificial Sequence

<220>

<223> modified oligodeoxynucleotide phosphorothioate

<221> modified_base

<222> 13

<223> c = 1',2'-Dideoxyribose

<400> 112

ctatctgacg ttctctgt

18